Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) An electrolytic phosphate chemical treatment method of forming a film composed of a phosphate compound and a metal that is reduced and precipitated from an ionic state on the surface of a metal material article to be treated, comprising:

performing the electrolytic treatment on said article in a phosphate chemical treatment bath by contacting said metal material article having electrical conductivity with said phosphate chemical treatment bath containing phosphate ions, phosphoric acid, nitrate ions, metal ions that form a complex with the phosphate ions in said phosphate chemical treatment bath, and metal ions for which the dissolution-precipitation equilibrium potential at which the metal ions dissolved in said phosphate chemical treatment bath are reduced and precipitate as metal is equal to or greater than -830 mV, which is the cathodic reaction decomposition potential of water when indicated as the hydrogen standard electrode potential, and the treatment bath has a pH of less than 2 and is substantially free of metal ions, other than those which are a component of the film which will form sludge; wherein,

the oxidation-reduction potential (ORP) of said phosphate chemical treatment bath indicated as the potential relative to a standard hydrogen electrode, is maintained at equal to or greater than ~~700 mV,~~770 mV, and is used to monitor the treatment ~~of the~~ bath.

2. (Previously Presented) An electrolytic phosphate chemical treatment method according to claim 1, wherein said electrolytic treatment uses for an electrode material that dissolves in the treatment bath the metal ions that form the complex with the phosphoric acid and the phosphate ions in the phosphate chemical treatment bath, the metal material article for which the dissolution-precipitation equilibrium potential at which the ions dissolved in the

phosphate chemical treatment bath are reduced and precipitate as the metal is greater than or equal to -830 mV, which is the cathodic reaction decomposition potential of water when indicated as the hydrogen standard electrode potential, or a metal material that is insoluble during the electrolytic treatment.

3. (Currently Amended) The electrolytic phosphate chemical treatment method according claim 1, further comprising dissolving an amount of Fe ions into the treatment bath from an Fe electrode and the article to be treated, when performing a cathodic treatment of said article to be treated and using the Fe electrode as the electrode that dissolves in the treatment bath, is controlled in order to make said ORP of the phosphate chemical treatment bath equal to or greater than ~~700 mV~~ 840 mV and maintain the amount of Fe ions within a solubility limit of Fe^{3+} ions.

4. (Currently Amended) The electrolytic phosphate chemical treatment method according to claim 1, wherein in a case where the article to be treated is a steel material, the method further comprises dissolving an amount of Fe ions into the treatment bath in an anodic treatment in which said steel material to be treated is dissolved as an anode, and the amount of Fe ions that dissolves in the treatment bath from an Fe electrode in a cathodic treatment, are controlled so that the ORP of the phosphate chemical treatment bath is equal to or greater than ~~700 mV.~~770 mV.

5. (Currently Amended) The electrolytic phosphate chemical treatment method according to claim 1, wherein an electrode is used in the electrolytic treatment for making the ORP of the phosphate chemical treatment bath equal to or greater than ~~700 mV~~ 770 mV is an insoluble metal material.

6. (Currently Amended) The electrolytic phosphate chemical treatment method according to claim 1, wherein a chemical that contains Fe ions which replenishes the

phosphate chemical treatment bath is an Fe-phosphate complex in order to make the ORP of said phosphate chemical treatment bath equal to or greater than ~~700 mV.~~770 mV.

7. (Canceled)

8. (Previously Presented) The electrolytic phosphate chemical treatment method according to claim 1, wherein the metal ions that form a complex with the phosphoric acid and the phosphate ions in the phosphate chemical treatment bath are at least one of Zn, Fe, or Mn ions.

9. (Previously Presented) The electrolytic phosphate chemical treatment method according to claim 1, wherein N_2O_4 gas generated and dissolved in a treatment tank is removed from the treatment bath by separating the treatment tank into an electrolytic treatment tank that carries out the electrolytic treatment and an auxiliary tank that does not carry out the electrolytic treatment, circulating the treatment bath between the two tanks, and providing a mechanism that opens liquid of the treatment bath to the atmosphere either between the electrolytic treatment tank and the auxiliary tank or within the electrolytic treatment tank and the auxiliary tank, as a means of separating the N_2O_4 gas generated in the treatment bath accompanying the electrolytic treatment of the treatment bath.

10. (Previously Presented) The electrolytic phosphate chemical treatment method according to claim 9, wherein the auxiliary tank that does not carry out the electrolytic treatment has a mechanism in which the treatment liquid is passed through a permeable solid structure.

11. (Original) The electrolytic phosphate chemical treatment method according to claim 10, wherein the solid structure is a film.

12. (Previously Presented) The electrolytic phosphate chemical treatment method according to claim 9, wherein a filter having a mechanism that filters the treatment liquid is used for the auxiliary tank that does not carry out the electrolytic treatment.

13. (Previously Presented) The electrolytic phosphate chemical treatment method according to claim 9, further comprising removing, through a liquid circulation circuit, a portion of the treatment liquid at a location prior to being introduced into a filter material in a filter, exposing the removed treatment liquid to the atmosphere, and returning it to the electrolytic treatment tank after separating the gases in the form of nitrogen oxides present in the treatment liquid.

14. (Previously Presented) The electrolytic phosphate chemical treatment method according to claim 9, wherein an oxidation-reduction potential of the treatment bath is equal to or greater than -840 mV.

15. (Previously Presented) The electrolytic phosphate chemical treatment method according to claim 9, wherein the treatment bath is maintained in a constant state by measuring an oxidation-reduction potential value of the treatment bath and changing an amount and/or composition of replenishing chemical corresponding to the change in that value.